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Certificate

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ACTA 2003/00047

The attached documents are true copies of the Form P2, P1, P6 and a Provisional Specification of a South African Patent application No. 2002/06565

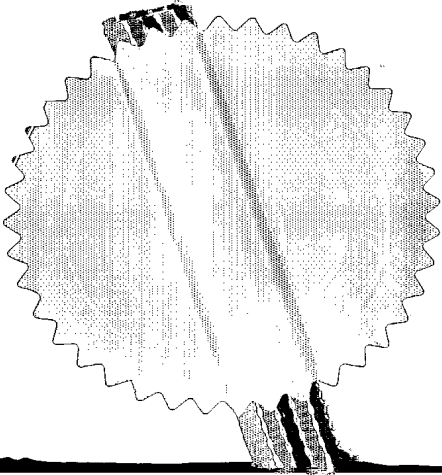
In the name of : **VINALITI (PROPRIETARY) LIMITED**

Filed on the : **16th AUGUST 2002**

Entitled : **DISPENSER PARTICULARLY, BUT NOT
EXCLUSIVELY, FOR CIGARETTE
PACKETS**

Geteken te **PRETORIA** in die Republiek van Suid-Afrika, hierdie dag van
Signed at in the Republic of South Africa, this **12th** **OCTOBER 2006**
day of

Registrateur van Patente
Registrar of Patents



REPUBLIC OF SOUTH AFRICA

PATENTS ACT, 1978

REGISTER OF PATENTS

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FULL NAME(S) OF APPLICANT(S) / PATENTEE(S)					
71	VINALLTI (PROPRIETARY) LIMITED				
APPLICANTS SUBSTITUTED				DATE REGISTERED	
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ASSIGNEE(S)				DATE REGISTERED	
71					
FULL NAME(S) OF INVENTOR(S)					
72	KLAUS HEINRICH LANZ				
PRIORITY CLAIMED		COUNTRY		NUMBER	
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TITLE OF INVENTION					
54	DISPENSER PARTICULARLY, BUT NOT EXCLUSIVELY, FOR CIGARETTE PACKETS				
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74					
PATENT OF ADDITION TO NO.		DATE OF ANY CHANGE			
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FRESH APPLICATION BASED ON		DATE OF ANY CHANGE			

REPUBLIC OF SOUTH AFRICA
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APPLICATION FOR A PATENT AND ACKNOWLEDGMENT OF RECEIPT
(Section 30(1) Regulation 22)

THE GRANT OF A PATENT IS HEREBY REQUESTED BY THE UNDERMENTIONED APPLICANT
ON THE BASIS OF THE PRESENT APPLICATION FILED IN DUPLICATE

21 01 OFFICIAL APPLICATION NO. **2002/6565**

BB REF: 10304

71 FULL NAME(S) OF APPLICANT(S)
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54 TITLE OF INVENTION

DISPENSER PARTICULARLY, BUT NOT EXCLUSIVELY, FOR CIGARETTE PACKETS

☐ THE APPLICANT CLAIMS PRIORITY AS SET OUT ON THE ACCOMPANYING FORM P.2.
(COUNTRY) (DATE) (NO.)

☐ **21 01** THE APPLICATION IS FOR A PATENT OF ADDITION TO PATENT APPLICATION NO

☐ **21 01** THIS APPLICATION IS A FRESH APPLICATION IN TERMS OF SECTION 37 AND BASED ON APPLICATION NO

THIS APPLICATION IS ACCOMPANIED BY:

- ☒ 1. A single copy of a provisional or two copies of a complete specification of **18** pages
- ☒ 2. Drawings of **10** sheets
- ☐ 3. Publication particulars and abstract (Form P.8 in duplicate).
- ☐ 4. A copy of Figure of the drawings (if any) for the abstract.
- ☒ 5. An assignment of invention
- ☐ 6. Certified priority document(s). (State number)
- ☐ 7. Translation of the priority document(s)
- ☐ 8. An assignment of priority rights
- ☐ 9. A copy of Form P.2 and the specification of RSA Patent Application No
- ☒ 10. Form P.2 in duplicate
- ☒ 11. A declaration and power of attorney on Form P.3
- ☐ 12. Request for ante-dating on Form P.4
- ☐ 13. Request for classification on Form P.9
- ☐ 14.

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DATED THIS **15th** DAY OF **August 2002**

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APPLICANTS PATENT ATTORNEYS

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FORM P.1

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REGISTRAR OF PATENTS

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REPUBLIC OF SOUTH AFRICA
Patents Act, 1978

PROVISIONAL SPECIFICATION

(Section 30 (1) – Regulation 27)

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71	FULL NAME(S) OF APPLICANT(S)
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VINALLTI (PROPRIETARY) LIMITED

72	FULL NAME(S) OF INVENTOR(S)
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KLAUS HEINRICH LANZ

54	TITLE OF INVENTION
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DISPENSER PARTICULARLY, BUT NOT EXCLUSIVELY, FOR CIGARETTE PACKETS

FIELD OF THE INVENTION

THIS INVENTION relates dispensers particularly, but not exclusively, for cigarette packets.

BACKGROUND TO THE INVENTION

Various factors, such as restrictive legislation and the need to make the best possible use of space in retail outlets, has given rise to a need for a dispenser which can not only store a number of packets but can also display the front face of at least one packet and dispense packets one at a time to customers.

The present invention seeks to provide a dispenser which will store packets and dispense them one at a time. It also seeks to provide, as a subsidiary feature, a dispenser in which at least one packet's front face is displayed for advertising purposes.

The present invention further seeks to provide means for producing data relating to the dispensing of cigarette packets as well as means to prevent tampering and/or theft.

BRIEF DESCRIPTION OF THE INVENTION

According to one aspect of the present invention there is provided a

dispenser for dispensing packets particularly, but not exclusively cigarette packets, said dispenser comprising a magazine for holding a plurality of packets standing in an upright position, means for pushing the plurality of packets towards a dispensing end of the magazine, means for lifting the leading packet of the plurality upwards out of the magazine, dispensing means for displacing the lifting means, aligning means
5 for aligning said lifting means within a dispensing column up which said lifting means pushes the packet being lifted, means for supporting a packet that has been lifted into said column to prevent the packet from dropping down said column, and activating means for dispensing one packet.

10 The column can have a closure element located at the upper end thereof, a packet being lifted in the column pressing on the closure element to lift it and permit that packet to emerge from the upper end of the column.

Said closure element can be in the form of a hinged lid or an elongate comb with flexible bristles.

15 Said means for pushing the packets forward in the magazine can comprise a pressure plate and a spring. The spring is preferably an elongate leaf spring which is wound to coil form, the inner end of the wound coil being fixed and the outer end of the coil being attached to the pressure plate.

Said dispensing means can comprise a first spool, an electric motor

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which, via a gearbox and a drive-shaft, drives said first spool, a second spool, an endless belt entrained around said spools, and a linkage connected to said belt for reciprocal movement as the belt moves, said linkage being connected to said lifting means for reciprocating said lifting means.

5 Said lifting means can comprise a coil spring which is connected at one end to a movable rod which forms said linkage, said coil spring being guided by said aligning means to align the free end of the coil spring vertically within the column so that said free end of the coil spring bears on the underside of a packet to be lifted.

10 Said aligning means can be in the form of a plurality of rollers which are mounted on a bracket adjacent the front wall of the dispenser, said coil spring passing between said spools and being aligned with the column by these rollers.

15 Said supporting means can comprise a channel located within the upper section of the dispensing column, said channel being rearwardly tilted and narrower than the column, and having a stop at the lower end thereof, said stop lying beneath the lower end of a packet once said packet has entered said channel.

Said activating means can comprise a switch which is operated when a packet is to be dispensed, said electric motor being energised through said switch during the dispensing operation and de-energizing the electric motor when the

packet has been dispensed and said dispensing means has returned to its original position.

5 Anti-tampering means in the form of a switch located at the upper end of the column can be provided, this switch being in an electric circuit which provides an alarm signal if the dispenser is tampered with.

Said data producing means in the form of a switch located at the upper end of the column can be provided for providing a count of the number of packets dispensed.

10 A single switch can be provided at the upper end of the column which comprises both the anti-tampering means and the data producing means.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the present invention, and to show how the same may be carried into effect, reference will now be made, by way of example, to the accompanying drawings in which:-

15 Figure 1 is a side elevation of a dispenser in accordance with the present invention, the dispenser being in an inoperative position;

Figures 2 to 6 are side elevations of a dispenser in different operative conditions;

Figure 7 is a pictorial view of the dispenser;

Figure 8 is a side elevation of a dispensing mechanism;

Figure 9 is a top plan view of the dispensing mechanism of Figure 8;

Figure 10 is a side elevation of a pressure plate to an enlarged scale; and

5 Figure 11 is a pictorial view of a lockable container.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring firstly to Figures 1 and 7, the dispenser 10 illustrated comprises an upstanding column 12 and a horizontal magazine 14.

10 The column 12 is bounded at its lower end by a front wall 16 and is open at the back. A window 18 is provided in the front wall 16. The upper portion of the column 12 is bounded by the window 18 at the front and at the rear by a wall 20. The column 12 has no lid and is therefore open at the top. A switch 22 is mounted in the rear wall 20 at the upper end of the column 12. The operating arm of the switch 22 is designated 24.

15 A cross member 26 forms the cill of the window 18 and has a wire spring 28 mounted on it. The wire spring 28 is of inverted U-shape and leans inwardly as best seen in Figure 7.

A stop 30, which can be in the form of an L-shaped bracket, is attached to the lower end of the rear wall 20 of the column 12. The stop 30 lies

beneath the lower edge of a packet located in the column 12 and prevents the packet from dropping down.

A closure element (not shown) could be provided in the upper end of the column 12. The closure element could be in the form of a hinged lid that would be forced open by the upward motion of the packet being dispensed.

Alternatively, the closure element could be in the form of an elongate comb with flexible bristles (not shown). In this form the bristles can be secured at one end along the upper rear edge of the column 12 with the bristles extending across the width of the column 12 such that the free ends of the bristles rest on the upper front edge of the column 12. The upward motion of the packet being dispensed causes the packet to protrude through the bristles so that it becomes available to the consumer.

The magazine 14 comprises elongate side walls 32 and 34 and is open at its front end and rear ends. The side walls 32, 34 are bent inwardly along their lower edges to define a two part base wall 36 with a slot 38 along the centre thereof. An elongate channel 40 is provided in the slot 38. The upper edges of the flanges of the channel 40 are each bent twice through 90° to provide two horizontally extending grooves 42.

The front section of the side walls 32, 34 are bent through 90° to form

two vertical stops 44. The stops 44 abut a cigarette packet during operation of the dispenser 10 and serves to maintain a plurality of packets in the magazine.

A transverse release bar 46 is mounted at the rear end of the magazine 14 and comprises a centrally located release element 48 and two cams 50. The element 48 is of inverted U-shape. The cams 50 are located at either end of the release bar 46 and extend rearwardly and upwardly in a direction away from the magazine 14.

The release bar 46 is tensioned by means of a spring (not shown) attached at one end to the bar 46 and at its other end to the underside of the magazine 14, such that the U-shaped element 48 extends upwardly at an angle away from the magazine 14.

Referring specifically to Figure 10, a pressure plate 52 fits between the side walls 32 and 34. The pressure plate 52 is preferably manufactured from a single sheet of material using a laser cutter and is bent to form a horizontal section 54, a rearwardly angled finger plate 56, a vertical front wall 58 and a rearwardly sloping face 60.

The rearwardly facing surface of the face 60 can have a picture or image (not shown) attached thereto, the picture depicting the type of cigarette packet to be loaded into the magazine. This picture will only be visible during

loading of the magazine.

The finger plate 56 is used to pull the pressure plate 52 back (to the right in the drawings) during loading of the magazine 14.

5 A rectangular housing 66 is mounted on the horizontal section 54 of the pressure plate 52 between the rearwardly sloping face 60 and the finger plate 56. The housing 66 includes a bore 68 for receiving a latch 70. The latch 70 is rectangular in configuration. The finger plate 56 protrudes through the space bounded by the latch 70.

10 A plate 72 is secured to the underside of the horizontal section 54. The plate 72 is shaped to provide two outwardly directed horizontally extending edges 74. The edges 74 cooperate with the grooves 42 provided in the elongate channel 40 thereby to locate the pressure plate 52 whilst permitting it to move along the magazine 14.

15 An elongate spring strip 76 (see Figure 1) has one end fastened between the underneath of the horizontal section 54 and the upper surface of the plate 72. The other end of the strip 76 is attached to a roller 78 which turns on a fixed spindle (not shown) and the strip 76 is wound around the roller 78 when the pressure plate 52 is in the retracted position shown, for example, in Figure 1.

Below and to one side of the magazine 14 there is a support structure 80 (Figures 8 and 9). The support structure 80 is preferably manufactured from a single sheet of material using a laser cutter and is bent to form a horizontal section 82, a vertical side wall 84, a raised rear plate 86 and a strut 88.

5 A circuit board 90 is mounted on the raised rear plate 86 and a switch 92 is mounted on the strut 88. The operating arm of the switch 92 is designated 94.

10 An electric motor 96 is mounted on the horizontal section 82 of the structure 80. The motor 96, via a gearbox 98, drives a spool 100 which is fixed on the motor's drive-shaft 102. The drive-shaft 102 extends through a hole (not shown) in the side wall 84 such that the spool 100 and the motor 96 are located on opposed sides of the wall 84.

 The electric motor 96 is wired through the switch 92 and through a manually operable switch (not shown) in parallel with the switch 92.

15 A further spool 104 is provided adjacent the front edge of the side wall 84. The spool 104 is mounted on a shaft spindle 106 and is held on the shaft spindle 106 by an end-cap 108. The spool 104 is free to rotate about the shaft spindle 106.

 A drive-rod 110 is welded, or attached by suitable attachment means,

to the side wall 84 such that the rod 110 and the spool 104 are on opposed sides thereof. The rod 110 extends towards the front wall 16 of the dispenser 10 substantially parallel to the side wall 84.

5 A toothed belt 112 is entrained around the spools 100 and 104. The belt 112 includes teeth 114 located on the inwardly facing surface thereof. The teeth 114 cooperate with similarly shaped recesses (not shown) provided in the outer surface of the spool 100. The teeth 114 and recesses cooperate to locate the belt 112 on the spool 100 and assist in preventing slippage.

10 Rotation of the spool 100 about the drive-shaft 102 in the direction of the arrows (see Figures 2 to 6) and results in simultaneous rotation of the spool 104 about the shaft spindle 106.

15 A housing 116 is secured to the outer surface of the belt 112. The housing 116 has a bore (not shown) therein for receiving a U-shaped member 118. The configuration of the U-shaped member 118 can best be seen in Figure 9 and consists of a rod bent twice through 90° to form two parallel arms 118.1 and 118.2 and an elongate cross-bar 118.3. The arm 118.1 is secured within the housing 116 such that the elongate cross-bar 118.3 extends substantially parallel to the belt 112.

In the dispenser's inoperative or rest condition, the housing 116 is positioned such that it is in contact with the free end of the operating arm 94 of the

switch 92. The switch 92 is a normally closed switch and thus, in this position with the arm 94 engaged, the circuit into which the switch is connected is open and no power flows.

5 A cylindrical sleeve 120 is located around the arm 118.2 and is held in position by an end-cap 122 attached to the free end of the arm 118.2. The underside of the sleeve 120 rests on the rod 110. The sleeve 120 is free to rotate on the arm 118.2.

10 Referring specifically to Figure 8, a coil spring 124 is provided which comprises a short portion 124.1 and an elongate portion 124.2 which are integral with one another. The portion 124.1 is co-axial with the sleeve 120 and the elongate portion 124.2 is connected with the rod 110.

15 An L-shaped guide rod 126 is welded, or secured by other attachment means, to one side of the wall 84. The rod 126 extends perpendicular to the wall 84 and is then bent through 90° so that its major portion is substantially parallel to the rod 110. The lower surface of the guide rod 126 rests on the upper surface of the sleeve 120 adjacent the end-cap 122. The guide rod 126 assists in guiding the U-shaped member 118 on its forward and return strokes during operation of the dispenser 10.

An L-shaped bracket 128 is mounted adjacent the front wall 16 of the

dispenser 10 such that its vertical flange 130 is perpendicular to the dispenser's front wall 16. The bracket 128 has four pins 132 protruding from the flange 130. The pins 132 are substantially parallel to the front wall 16. Four spools 134 are located on the pins 132, each spool 134 having a centrally located circumferential groove (not shown) therein.

On assembly of the dispenser 10, the elongate portion 124.2 of the coil spring 124 is positioned between the spools 134 so that the free end of the elongate portion 124.2 protrudes upwardly into the column 12. This portion of the spring 124 within the column 12 is designated 124.3.

An end-cap 136 is inserted into the free end of the portion 124.3. The end-cap 136 serves to provide a flat contact surface which engages with the underside of a packet during operation of the dispenser 10.

In use of the dispenser 10 the pressure plate 52 is pulled to the rear of the magazine 14 (the right hand end in Figures 1 to 7). The latch 70 comes into contact with the angled release element 48 and slides upwardly until the element 48 is bound by the latch 70. This prevents the pressure plate 52 from sliding along magazine 14 towards the front wall 16 of the dispenser 10 under the action of the strip 76.

Cigarette packets P1, P2, P3, P4 (Figures 2 to 6) are then loaded into

the magazine 14. Each packet stands upright with its major faces vertical. The bottom faces of the packets rest on the bottom wall of the magazine 14.

When the release bar 46 is rotated by pushing on the cams 50, the latch 70 disengages from the release element 48 and the pressure plate 52 is released. The strip 76 coils on the roller 78 thereby displacing the plate 52 and pushing all the packets forward along the magazine 14. The front packet P1 abuts the stops 44 and is visible in the window 18 from the front of the dispenser 10. In this position, the upper surface of the end cap 136 of the coil spring 124 is in contact with the lower surface of the packet P1.

In the illustrated form, the column 12 is tall enough to hold two packets stacked on each other. These two packets, designated P5 and P6, and the packet P1 in the window 18, are all visible from outside the dispenser 10.

When the motor 96 is activated, using the manually operable switch (not shown), the drive-shaft 102 rotates the spool 100 and thus the upper run of the belt 112 moves to the left (as viewed in the drawings). Movement of the belt 112 causes the housing 116 to move upwardly and away from the operating arm 94 of the switch 92. The arm 94 is released into its normally closed position and subsequent opening of the manually operable switch does not result in the motor 96 stopping as the motor 96 is now supplied through the switch 92.

Continued movement of the belt 112 causes the housing 116 to move to the left and thus the coil spring 124 carried by the rod 110 is also pushed to the left. The portion 124.3 of the coil spring 124 is pushed upwardly into the column 12 carrying the packet P1 upwardly with it (see Figure 3).

5 Once the packet P1 has been lifted sufficiently into the column 12 such that it is no longer in contact with packet P2, the pressure plate 52, under the action of the spring strip 76, pushes the packet P2 forward so that it abuts the spring 124 (see Figure 4). However, the spring 124 is sufficiently stiff to prevent the packet P2 from being pushed any further forward by the pressure plate 52.

10 As the packet P1 is pushed up into the column 12, the upper surface of the packet P1 bears on the underneath of the packet P5, pushing both packets P5 and P6 upwardly. This causes the packet P6 to protrude from the column 12 and becomes available to the customer.

15 As the packet P1 is pushed further upwards, the upper surface thereof comes into contact with the spring 28 as illustrated in Figure 3. Continued upward movement of the packet P1 into the column 12 causes the packet P1 to tilt rearwardly, under the action of the spring 28, so that the packet is pressed against the rear wall 20. The lower edge of the packet P1 comes into contact with the stop 30 and prevents the packet P1 from dropping down out of the column 12.

The switch 22 is operated by the packet (P6 as illustrated) engaging the operating arm 24 as it emerges from the column 12. The switch 22 is connected to a circuit (not shown) and can be used to provide dispensing statistics, as well as to prevent tampering.

5 During normal operation, the switch 92 provides an electric signal prior to a signal being provided by the switch 22. However, if the switch 22 were to produce a signal prior to a signal being received by the switch 92, as would be consistent with someone attempting to remove a packet manually from the column 12, then the circuit is designed to temporarily remove power from the dispenser 10 until the dispenser 10 is reset. The shutting down of the dispenser 10 could be coupled to an audible and/or visible alarm, as well as requiring the insertion of an overriding key by a supervisor.

10 Once the housing 116 has reached the extreme left position as shown in Figure 4, the forward stroke of the dispenser 10 is complete and the portion 124.3 of the coil spring 124 is in its uppermost position within the column 12. Further motion (see Figure 5) of the belt 112 results in the housing 116 moving to the right thereby causing the rod 110 to retract. This in turn causes the portion 124.3 of the coil spring 124 in the column 12 to descend. The packet P1 is held in the column 12 by the stop 30.

20 Referring now to Figure 6, the housing 116 engages the operating arm

of the switch 92 and opens the circuit thereby removing power from the motor 96. Once the housing 116 has reached the position as shown in Figure 6, the return stroke of the dispenser 10 is complete.

Furthermore, the portion 124.3 of the spring 124 has retracted
5 sufficiently within the column 12 to allow the pressure plate 52 to push the packet P2 forwards so that it abuts the stops 44. The packet P2 in Figure 6 is therefore in the same position as packet P1 in Figure 2.

In the preferred form, the manual operating switch is eliminated and the switch 92 is wired by means of a circuit (not shown) directly to a cash register
10 (not shown). A signal received from the cash register that a packet of cigarettes is required, is transmitted via the circuit to the motor 96. The motor 96 is thus energized and the dispenser 10 operates in the manner described hereinbefore in order to dispense a packet of cigarettes.

A plurality of the dispensers 10 described can be placed side-by-side
15 in a lockable container 142 (see Figure 11). The container 142 has a first compartment 140 for receiving the magazines 14, the first compartment 140 having a top surface 142 on which a cash register (not shown) can stand.

The lower end of a second compartment 140 merges with the front end of the first compartment 140. The columns 12 stand up in the compartment 140.

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The rear wall 142 of the compartment 140 can be in the form of a lockable door.

5 The magazines 14 are mounted as a unit on a fixed rail structure (not shown), such as is found in filing cabinets which has drawers that slide in and out, and this unit can thus slide out of the compartment 140 for loading purposes. The magazines 14 and columns 12 are thus not connected to one another but merely come into co-operating relationship as the unit comprising the loaded magazines 14 are slid back into the first compartment 140.

10 Closing of the door 142 causes the cams 50 to come into contact with the inwardly facing surface of the door 142. The movement of the cams 50 releases the latches 54 from their corresponding release elements 32, thereby releasing the pressure plates 36. In this way the closing of the door 142 ensures that no pressure plate 52 remains in the latched position when the door 142 is closed and the dispenser 10 is operational.

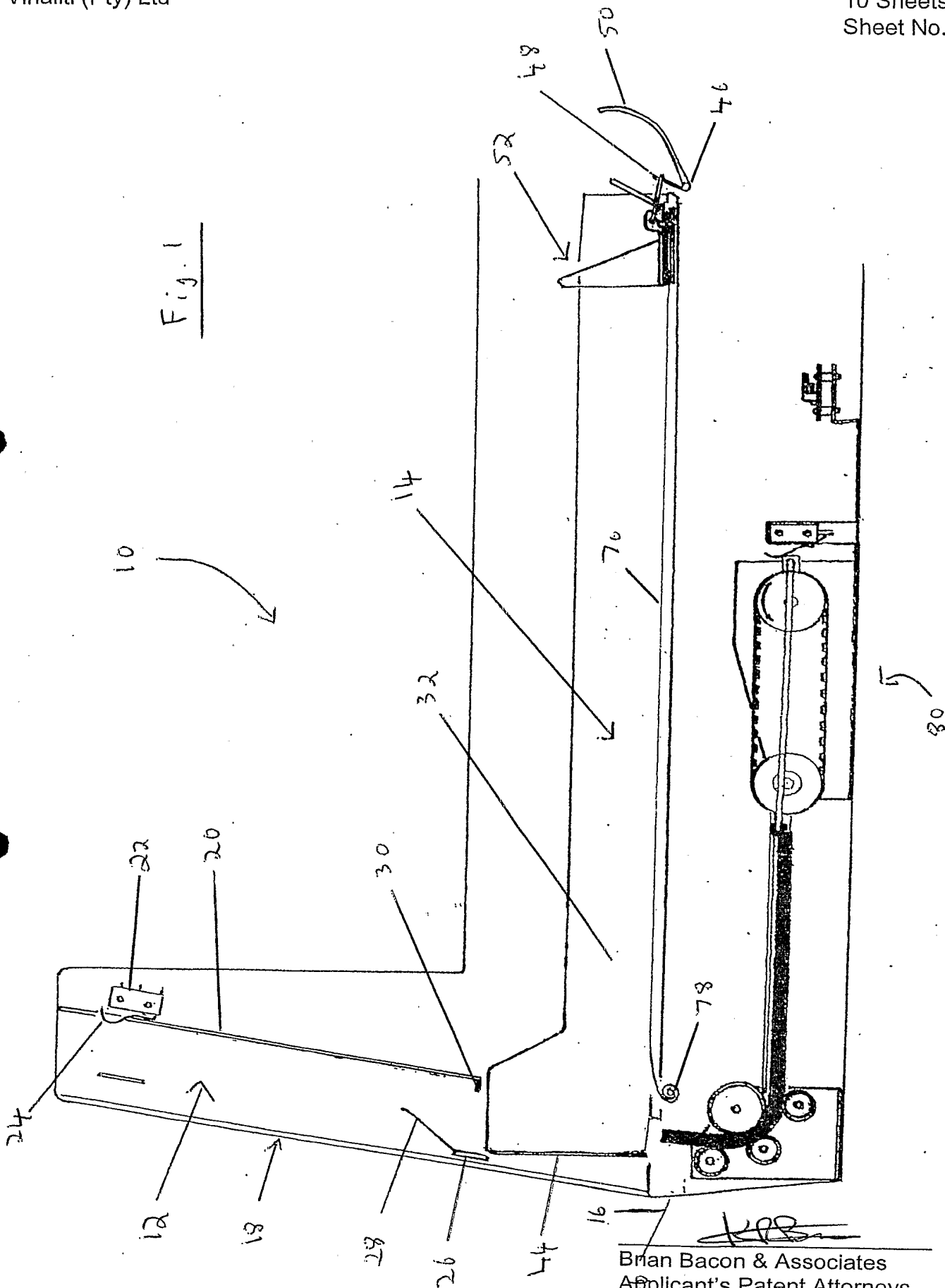
15 A switch (not shown), or similar detecting means, can be located within the door 142 to ensure that power cannot be provided to the dispenser 10 unless the door 142 is in its closed position.

Dated this 15th day of August 2002



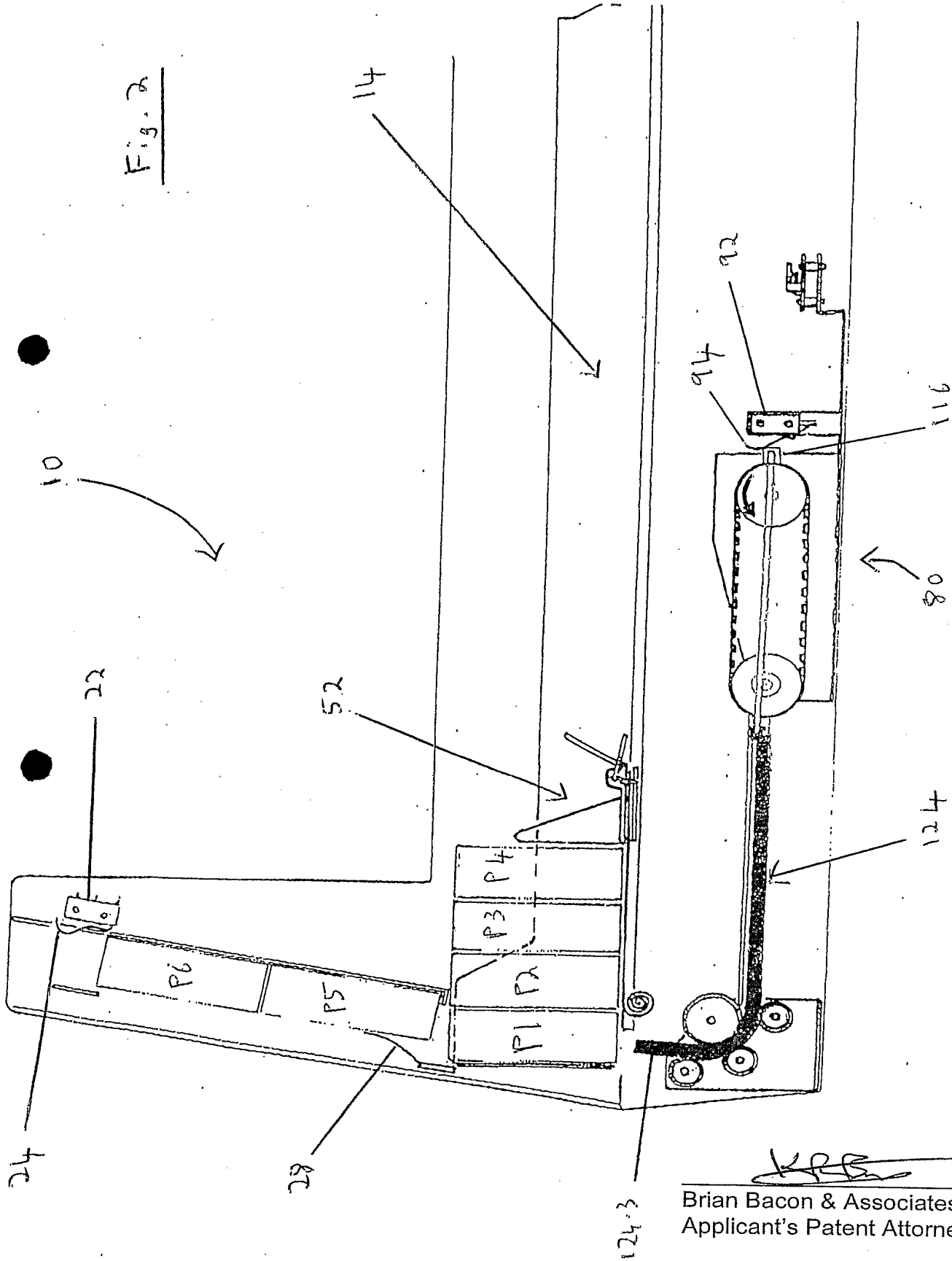
Brian Bacon & Associates
Applicant's Patent Attorney

Fig. 1



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Fig. 2



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Fig. 3

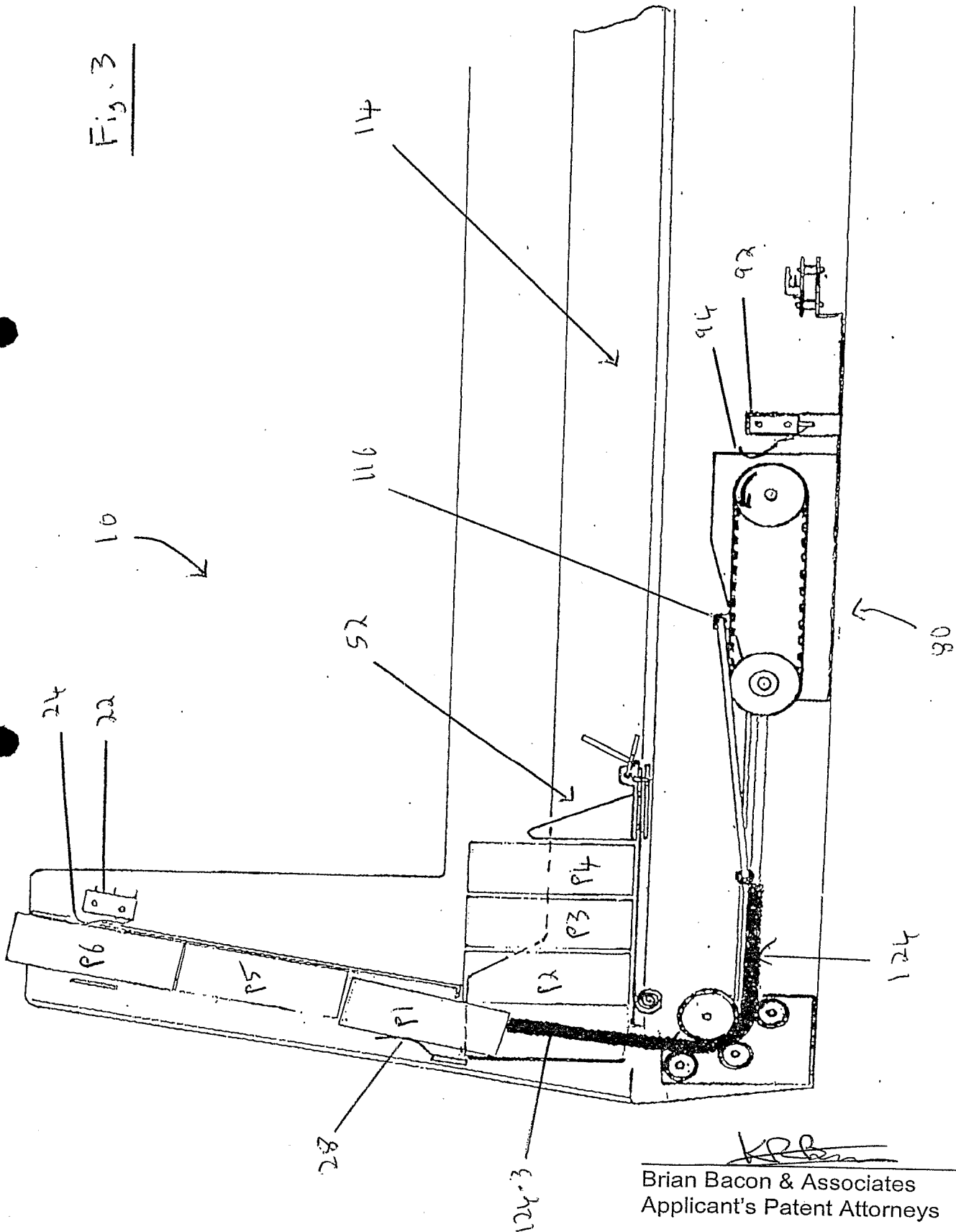
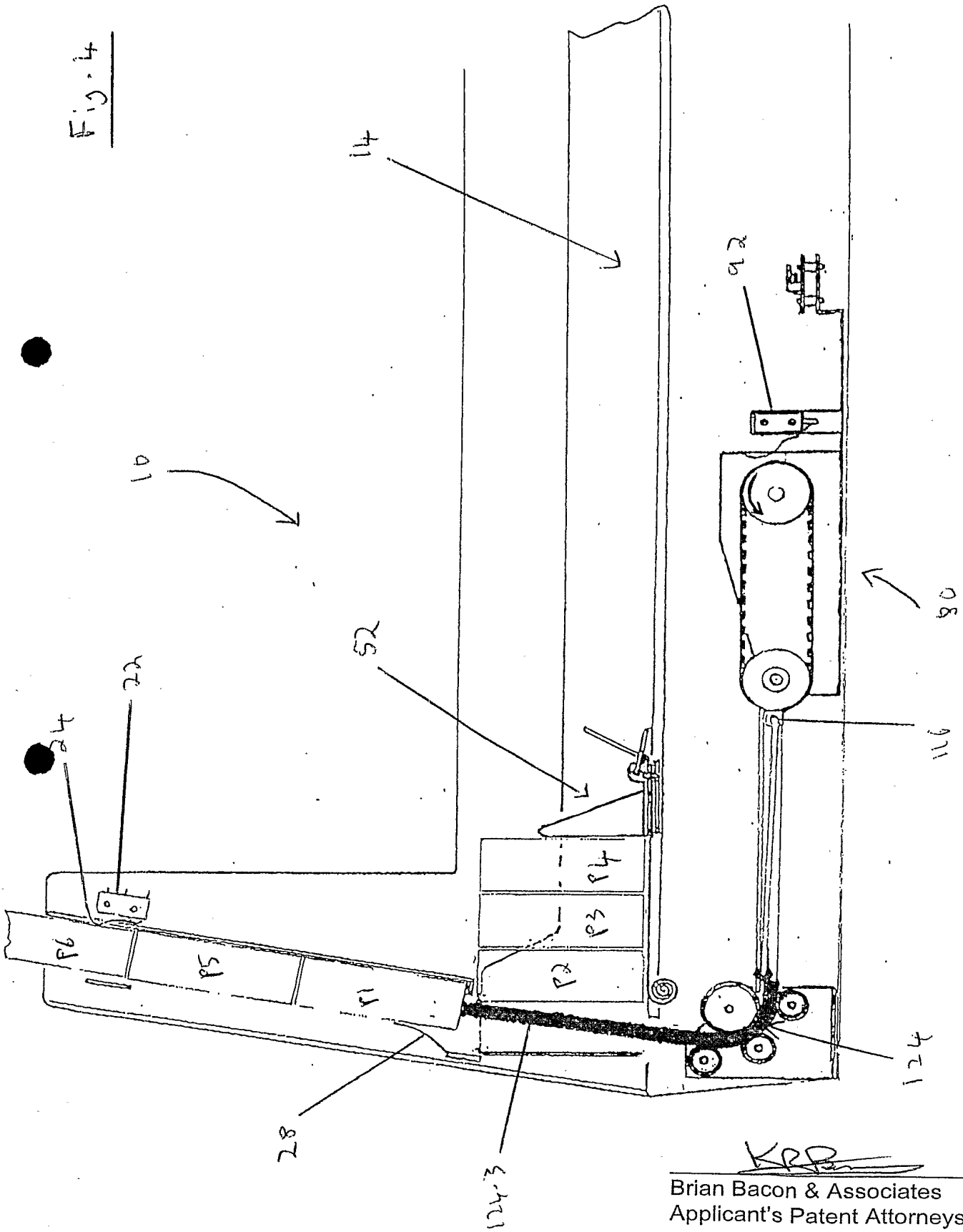
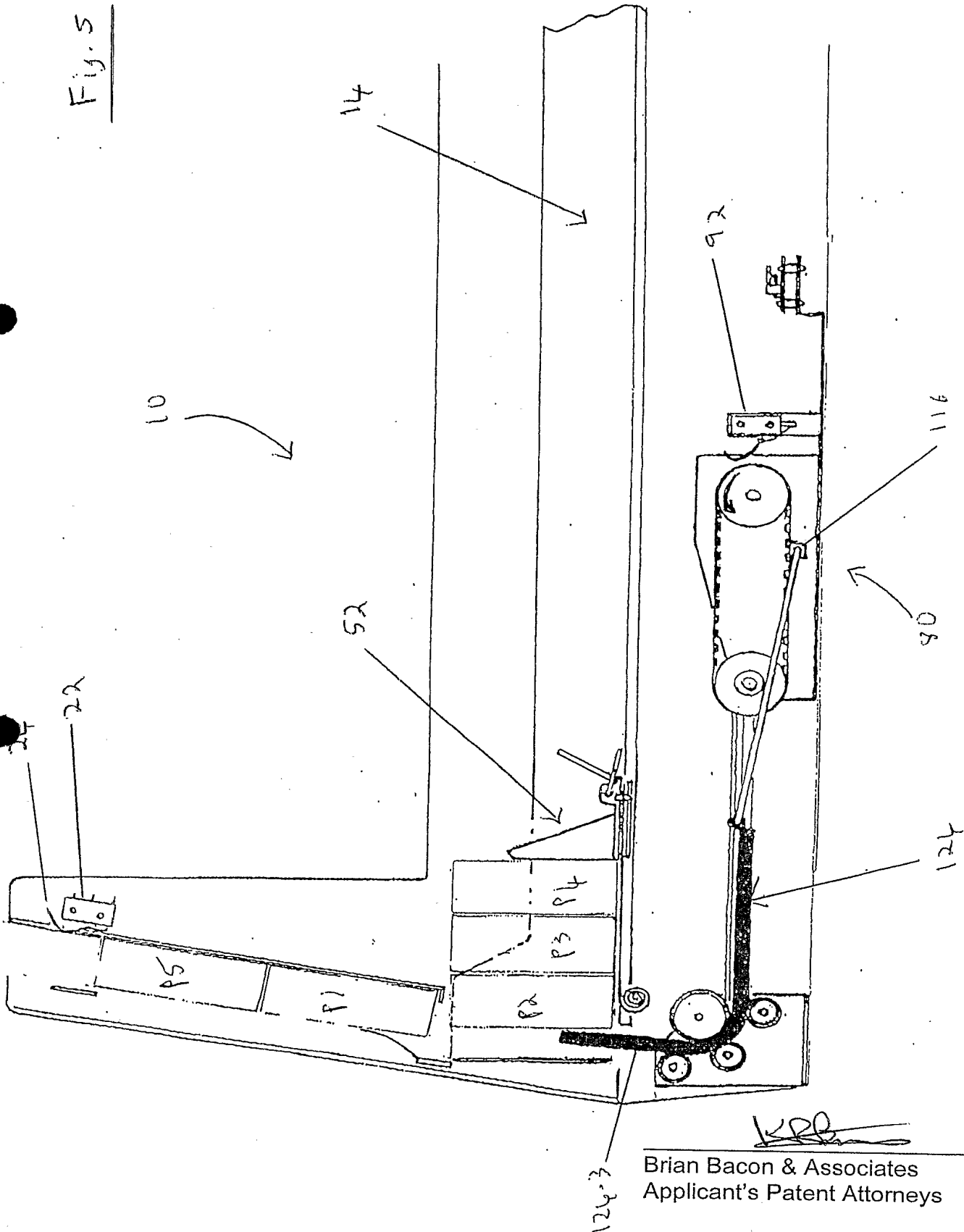


Fig. 4



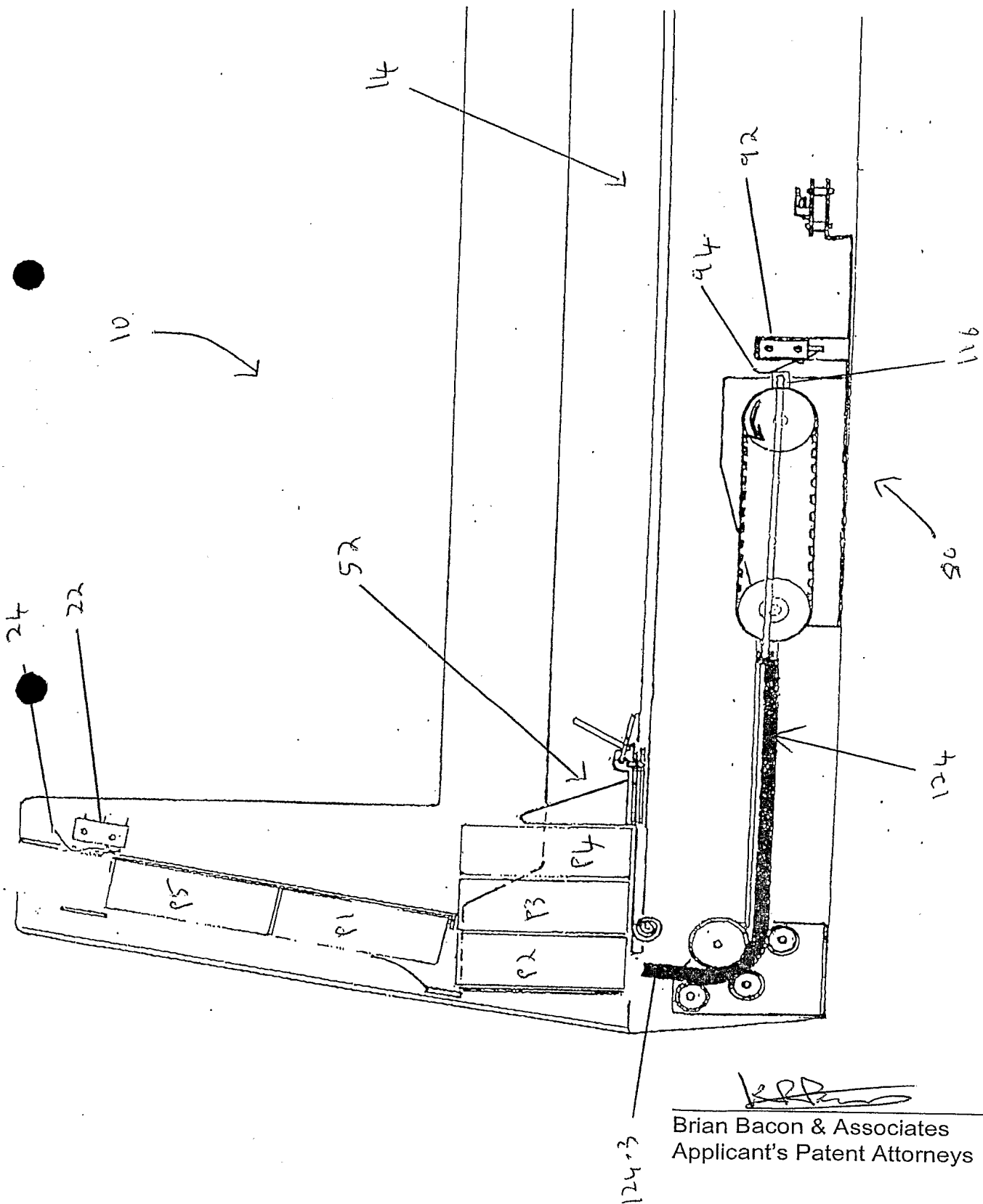
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Applicant's Patent Attorneys

Fig. 5



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Fig. 6



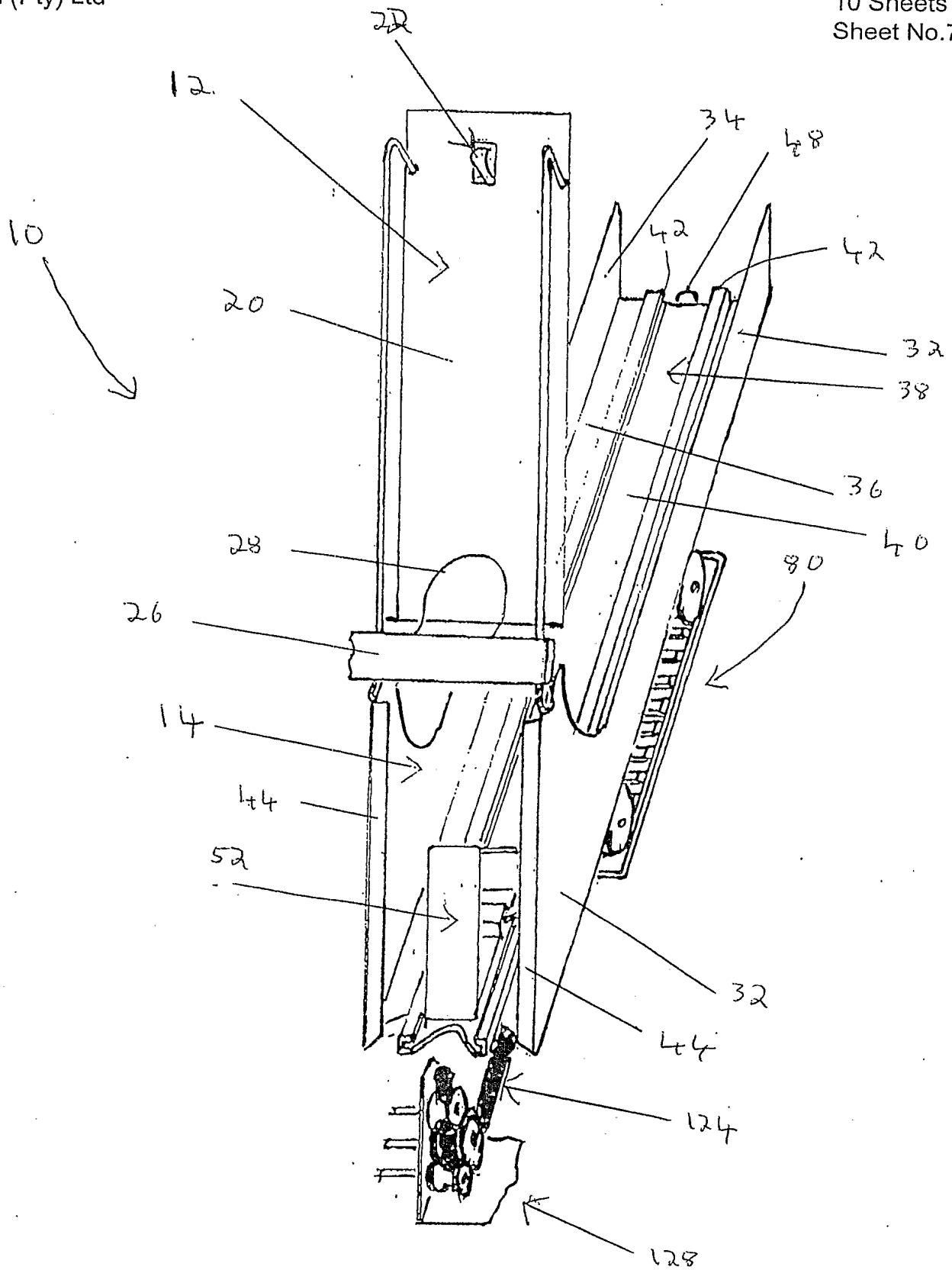


Fig. 7

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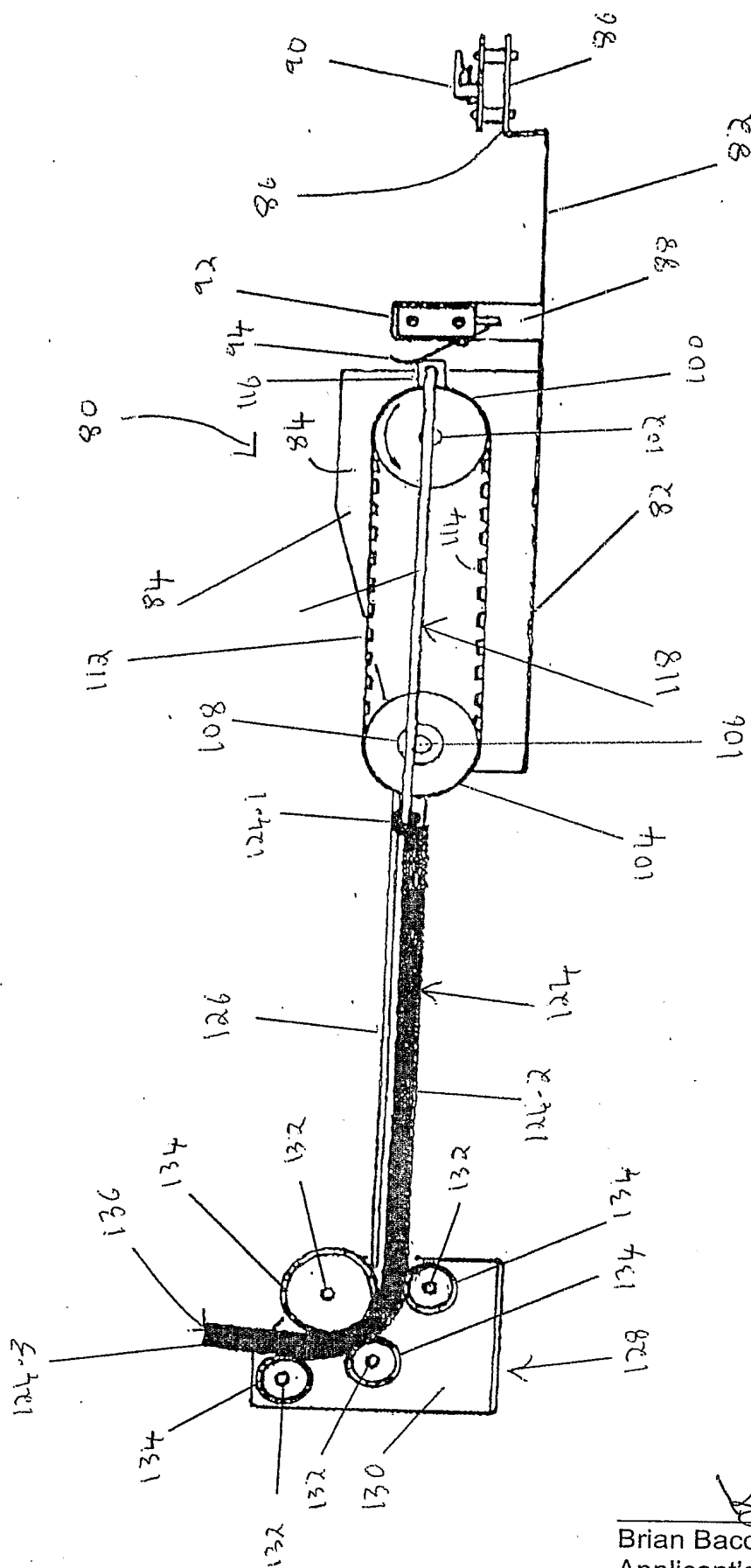
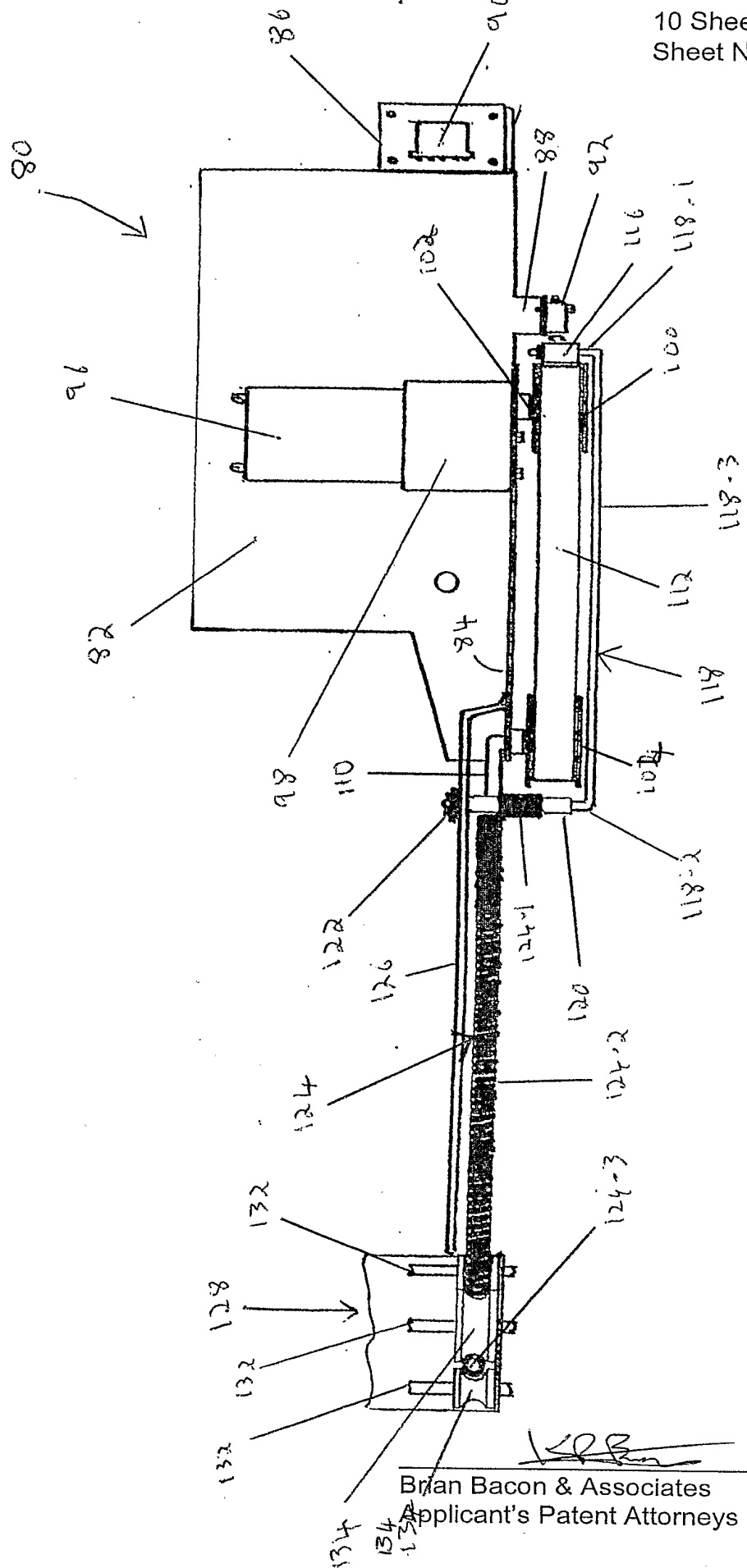


Fig. 8

Fig. 9



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